

IN THE CLAIMS

1. (currently amended) A method of electrically addressing a matrix screen of bistable nematic liquid crystals with breaking of anchoring, the method comprising applying controlled electrical signals respectively to row electrodes and to column electrodes of the screen, and further comprising simultaneously addressing a plurality of rows using similar row signals that are offset in time by a duration greater than or equal to the time column voltages, said row addressing signals comprising in a first period at least one voltage value serving to break the anchoring of all of the pixels in the row, followed by a second period enabling the final states of the pixels making up the address row to be determined, said final states being a function of the value of each of the electrical signals applied to the corresponding columns wherein the screen uses two textures, one texture being uniform or lightly twisted in which the molecules are at least substantially parallel to one another, and the other texture differing from the first by a twist of the order of $\pm 180^\circ$ and wherein

$$\tau_c \leq \tau_p < \tau_L$$

in which relationship:

τ_p represents the time offset between two row signals;

τ_L represents the row addressing time comprising at least an anchoring breaking stage and a texture selection stage; and

τ_c represents the duration of a column signal.

2. (canceled)

3. (previously presented) A method according to claim 1, wherein the ends of the column signals are synchronized with the ends of the row signals.

4. (canceled)

5. (previously presented) A method according to claim 1, wherein the time for addressing x simultaneously addressed rows is equal to

$$\tau_L + [\tau_D(x-1)]$$

in which relationship:

τ_D represents the time offset between two row signals; and

τ_L represents the row addressing time including at least an anchoring breaking stage and a texture selection stage.

6. (previously presented) A method according to claim 1, wherein the rows addressed simultaneously in time overlap are adjacent rows.

7. (previously presented) A method according to claim 1, wherein the rows addressed simultaneously in time overlap are rows that are spaced apart.

8. (previously presented) A method according to claim 7, further comprising simultaneously addressing i modulo j rows, i.e. rows i , $i+j$, $i+2j$, etc., by providing a row signal of duration $\tau_L = j\tau_D$, by offsetting two successive simultaneously applied row signals in time by τ_D , and by offsetting the successive blocks of simultaneously applied row signals by τ_L .

9. (previously presented) A method according to claim 1, wherein parameters of the signals applied to the screen column electrodes are adapted to reduce the rms voltage of interfering pixel pulses in order to reduce the interfering optical effects of the addressing.

10. (previously presented) A method according to claim 1, wherein parameters of the signals applied to the screen column electrodes are adapted to reduce the rms voltage of the interfering pixel pulses to a value of less than the Freedericksz voltage, so as to reduce the interfering optical effects of the addressing.

11. (previously presented) A method according to claim 10, wherein the parameters adapted to the electrical signal are selected from the group consisting of the waveform, the duration, and the amplitude of the column signal.

12. (previously presented) A method according to claim 1, wherein a duration of the column signal is less than the duration of a last plateau of the row pulse.

13. (previously presented) A method according to claim 1, wherein the column signal presents a squarewave shape.

14. (previously presented) A method according to claim 1, wherein the column signal presents a ramp shape.

15. (previously presented) A method according to claim 1, wherein x consecutive rows are addressed simultaneously with a time offset τ_b from one row to the next, the column signals corresponding to each row being sent sequentially once every τ_b , and each row signal having a total duration of not less than $\tau_L = x\tau_b$.

16. (previously presented) A method according to claim 1, wherein a beginning of the row signal for the $(i+x)^{th}$ row is synchronized with an end of the row signal for the i^{th} row.

17. (previously presented) A method according to claim 1, wherein the row signals do not present any symmetrization.

18. (previously presented) A method according to claim 1, wherein the signals present frame symmetrization.

19. (previously presented) A method according to claim 18, wherein polarities of the row signals are reversed from one image p to the following image $p+1$.

20. (previously presented) A method according to claim 18, wherein polarities of the row signals and polarities of the column signals are reversed from one image p to the following image p+1.

21. (previously presented) A method according to claim 18, wherein polarities of two successive row signals are reversed.

22. (previously presented) A method according to claim 18, wherein polarities of two successive row signals, and also of two successive column signals are reversed.

23. (previously presented) A method according to claim 17, wherein the number of rows addressed simultaneously is not less than:

$$x_{opt} = \text{integer portion } [\tau_L/\tau_0]$$

in which relationship:

τ_0 represents the time offset between row signals; and

τ_L represents the row addressing time comprising at least an anchoring breaking stage and a texture selection stage.

24. (previously presented) A method according to claim 1, wherein the signals present row symmetrization.

25. (previously presented) A method according to claim 24, wherein each row signal comprises two successive adjacent sequences presenting respective opposite polarities.

26. (previously presented) A method according to claim 24, wherein the column signal is split into two sequences whose ends are synchronized respectively with the end of the first sequence and with the end of the second sequence of the associated row signal, polarities of the two column signal sequences being likewise reversed.

27. (previously presented) A method according to claim 24, wherein the end of the column signal is synchronized with the end of the second sequence of the associated row signal.

28. (previously presented) A method according to claim 24, wherein the polarities of two successive row signals are reversed.

29. (previously presented) A method according to claim 24, wherein the polarities of two successive row signals and also of two successive column signals are reversed.

30. (previously presented) A method according to claim 24, wherein the number of rows addressed simultaneously is not less than:

$$x_{opt} = \text{integer portion } [2\tau_L/\tau_D]$$

in which relationship:

τ_D represents the time offset between two row signals; and

τ_L represents the row addressing time comprising at least an anchoring breaking stage and a texture selection stage.

31. (previously presented) A method according to claim 1, wherein the column signal is selected from the group comprising: a column signal of duration less than or equal to the duration of the last plateau of the row signal; a column signal of duration τ_c equal to τ_D ; and a column signal of duration τ_c less than τ_D , where τ_D represents the time offset between two row signals, while τ_c represents the duration of a column signal.

32. (previously presented) A method according to claim 1, wherein the row signal is a two-plateau signal: a plateau during the anchoring breaking stage; and a plateau during a texture selection stage.

33. (previously presented) A method according to claim 1, wherein the row signal is a multi-plateau signal during the anchoring breaking stage.

34. (previously presented) A method according to claim 1, wherein the row signal is a multi-plateau signal during a texture selection stage.

35. (currently amended) A device for electrically addressing a matrix screen having a bistable nematic liquid crystal with breaking of anchoring, the device comprising means suitable for applying controlled electrical signals respectively to the row electrodes and to the column electrodes of the screen, and further comprising the means suitable for simultaneously addressing a plurality of rows using similar row signals that are offset in time by a duration greater than or equal to the time column voltages are applied, said row addressing signals comprising in a first period at least one voltage value serving to break the anchoring of all of the pixels in the row, followed by a second period enabling the final states of the pixels making up the address row to be determined, said final states being a function of the value of each of the electrical signals applied to the corresponding columns wherein the screen uses two textures, one texture being uniform or lightly twisted in which the molecules are at least substantially parallel to one another, and the other texture differing from the first by a twist of the order of $\pm 180^\circ$ and wherein

$$\tau_c \leq \tau_b < \tau_L$$

in which relationship:

τ_b represents the time offset between two row signals;

τ_L represents the row addressing time comprising at least an anchoring breaking stage and a texture selection stage; and

τ_c represents the duration of a column signal.

36. (canceled)

37. (previously presented) A device according to claim 35, wherein the ends of the column signals are synchronized with the ends of the row signals.

38. (canceled)

39. (previously presented) A device according to claim 35, wherein the time for addressing x simultaneously addressed rows is equal to

$$\tau_L + [\tau_D(x-1)]$$

in which relationship:

τ_D represents the time offset between two row signals; and

τ_L represents the row addressing time including at least an anchoring breaking stage and a texture selection stage.

40. (previously presented) A device according to claim 35, wherein the rows addressed simultaneously in time overlap are adjacent rows.

41. (previously presented) A device according to claim 35, wherein the rows addressed simultaneously in time overlap are rows that are spaced apart.

42. (previously presented) A device according to claim 41, further including means for simultaneously addressing i modulo j rows, i.e. rows i , $i+j$, $i+2j$, etc., by providing a row signal of duration $\tau_L = jt_D$, by offsetting two successive simultaneously applied row signals in time by τ_D , and by offsetting the successive blocks of simultaneously applied row signals by τ_L .

43. (previously presented) A device according to claim 35, wherein parameters of the signals applied to the screen column electrodes are adapted to reduce the rms voltage of interfering pixel pulses in order to reduce interfering optical effects of the addressing.

44. (previously presented) A device according to claim 35, wherein parameters of the signals applied to the screen column electrodes are adapted to reduce the rms voltage of the interfering pixel pulses to a value of less than the Fredericksz voltage, so as to reduce interfering optical effects of the addressing.

45. (previously presented) A device according to claim 44, wherein the parameters adapted to the electrical signal are selected from the group consisting of: the waveform, the duration, and the amplitude of the column signal.

46. (previously presented) A device according to claim 35, wherein a duration of the column signal is less than a duration of a last plateau of the row pulse.

47. (previously presented) A device according to claim 35, wherein the column signal presents a squarewave shape.

48. (previously presented) A device according to claim 35, wherein the column signal presents a ramp shape.

49. (previously presented) A device according to claim 35, wherein x consecutive rows are addressed simultaneously with a time offset τ_b from one row to the next, the column signals corresponding to each row being sent sequentially once every τ_b , and each row signal having a total duration of not less than $\tau_L = x\tau_b$.

50. (previously presented) A device according to claim 35, wherein a beginning of the row signal for the $(i+x)^{th}$ row is synchronized with an end of the row signal for the i^{th} row.

51. (previously presented) A device according to claim 35, wherein the row signals do not present any symmetrization.

52. (previously presented) A device according to claim 35, wherein the signals present frame symmetrization.

53. (previously presented) A device according to claim 52, wherein polarities of the row signals are reversed from one image p to the following image p+1.

54. (previously presented) A device according to claim 52, wherein the polarities of the row signals and polarities of the column signals are reversed from one image p to the following image p+1.

55. (previously presented) A device according to claim 52, wherein polarities of two successive row signals are reversed.

56. (previously presented) A device according to claim 52, wherein polarities of two successive row signals, and also of two successive column signals are reversed.

57. (previously presented) A device according to claim 51, wherein the number of rows addressed simultaneously is not less than:

$$x_{opt} = \text{integer portion } [\tau_L/\tau_D]$$

in which relationship:

τ_D represents the time offset between row signals; and

τ_L represents the row addressing time comprising at least an anchoring breaking stage and a texture selection stage.

58. (previously presented) A device according to claim 35, wherein the signals present row symmetrization.

59. (previously presented) A device according to claim 58, wherein each row signal comprises two successive adjacent sequences presenting respective opposite polarities.

60. (previously presented) A device according to claim 58, wherein the column signal is split into two sequences whose ends

are synchronized respectively with the end of the first sequence and with the end of the second sequence of the associated row signal, polarities of the two column signal sequences being likewise reversed.

61. (previously presented) A device according to claim 58, wherein an end of the column signal is synchronized on an end of the second sequence of the associated row signal.

62. (previously presented) A device according to claim 58, wherein polarities of two successive row signals are reversed.

63. (previously presented) A device according to claim 58, wherein polarities of two successive row signals and also of two successive column signals are reversed.

64. (previously presented) A device according to claim 58, wherein the number of rows addressed simultaneously is not less than:

$$x_{opt} = \text{integer portion } [2\tau_L/\tau_D]$$

in which relationship:

τ_D represents the time offset between two row signals; and

τ_L represents the row addressing time comprising at least an anchoring breaking stage and a texture selection stage.

65. (previously presented) A device according to claim 35, wherein the column signal is selected from the group comprising: a column signal of duration less than or equal to the duration of the last plateau of the row signal; a column signal of duration τ_c equal to τ_D ; and a column signal of duration τ_c less than τ_D , where τ_D represents the time offset between two row signals, while τ_c represents the duration of a column signal.

66. (previously presented) A device according to claim 35, wherein the row signal is a two-plateau signal: a plateau during the anchoring breaking stage and a plateau during a texture selection stage.

67. (previously presented) A device according to claim 35, wherein the row signal is a multi-plateau signal during the anchoring breaking stage.

68. (previously presented) A device according to claim 35, wherein the row signal is a multi-plateau signal during the texture selection stage.